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| 09/905,532            | 07/14/2001  | Antony John Rogers   | 063170.6291         | 3485             |
| 5073                  | 7590        | 08/20/2007           | EXAMINER            |                  |
| BAKER BOTTS L.L.P.    |             |                      | PYZOCHA, MICHAEL J  |                  |
| 2001 ROSS AVENUE      |             |                      |                     |                  |
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|                       |             |                      | ART UNIT            | PAPER NUMBER     |
|                       |             |                      | 2137                |                  |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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|                              |                                      |                                      |  |
|------------------------------|--------------------------------------|--------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>09/905,532 | <b>Applicant(s)</b><br>ROGERS ET AL. |  |
|                              | <b>Examiner</b><br>Michael Pyzocha   | <b>Art Unit</b><br>2137              |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 July 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,4,8-16 and 20-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4,8-16 and 20-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 2137

**DETAILED ACTION**

1. Claims 1, 4, 8-16, and 20-23 are pending.
2. Amendment filed 07/12/2007 has been received and considered.

***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 12-16 and 20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 12 and 13 relate to a computer data signal, which fails to fall within one of the categories of patentable subject matter. Similarly, claims 14-16 and 20 relate to an apparatus with components, in these claims there is not explicit hardware and these components may merely be software (see paragraph 30 of the specification. Therefore, these claims lack the necessary physical articles or objects to constitute a machine or a manufacture within the mean of 35 USC 101. They are clearly not a series of steps or acts to be a process not are they a combination of chemical compounds to be a composition of matter. As such, they fail to fall within a

Art Unit: 2137

statutory category. They are, at best, functional descriptive material per se.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 4, 10-16, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chess (US 6192512) in view of Chambers (US 5398196).

As per claims 1, 10, 11, 12, and 14, Chess discloses a method of detecting viral code in subject files, comprising: creating an artificial memory region spanning one or more components of the operating system (see Fig. 2 column 4 lines 49-51); emulating execution of at least a portion of computer executable code in a subject file (see column 4 lines 33-49); detecting an attempt by the emulated computer executable code to access the artificial memory region; and determining based on

Art Unit: 2137

the attempt to access the artificial memory region that the emulated computer executable code is viral (see column 4 lines 49-54).

Chess fails to explicitly disclose monitoring operating system calls by the emulated computer executable code to detect an attempt to access the artificial memory region.

However, Chambers teaches such monitoring (see column 6 line 60 through column 7 line 15).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to monitor the operating system calls of the Chess system.

Motivation to do so would have been to detect viral activity and report the status of all operating system requests performed by the program (see Chambers column 7 lines 55-60).

As per claims 4 and 16, the modified Chess and Chambers system discloses emulating functionality of the identified operating system call while monitoring the operating system call to determine whether the computer executable code is viral (see Chess column 4 lines 33-54).

As per claims 13 and 15, the modified Chess and Chambers system discloses a fourth segment comprising auxiliary code, wherein the auxiliary code determines an operating system call that the emulated computer executable code attempted to access;

Art Unit: 2137

a fifth segment comprising analyzer code, wherein the analyzer code monitors the operating system call to determine whether the computer executable code is viral, while emulation continues (see Chess column 4 lines 33-54).

As per claim 21, the modified Chess and Chambers system discloses monitoring accesses by the emulated computer executable code to the artificial memory region to detect looping; and determining based on the detection of looping that the emulated computer executable code is viral (see Chambers column 10 lines 40-58).

As per claim 22, the modified Chess and Chambers system discloses creating an artificial memory region comprises creating a custom version of an export table with predetermined values for the entry points (see Chambers column 9 lines 14-54).

7. Claims 8, 9, 20 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over the modified Chess and Chambers system as applied to claims 1 and 14 above, in view of Golan (US 5974549).

As per claims 8 and 23, the modified Chess and Chambers system fails to disclose monitoring access by the emulated computer executable code to dynamically linked functions.

However, Golan teaches monitoring access by the emulated computer executable code to dynamically linked functions (Col 6,

Art Unit: 2137

lines 6-12; Col 5, lines 60-63); and Golan describes a security monitor method whereby access to dynamically linked functions is regulated because, as Golan discloses, "in an operating system that supports virtual memory and hardware abstraction, a software component can only breach security by calling a system call" (Col 5, lines 38-41).

It would have been obvious to one of ordinary skill in that art at the time the invention was filed to have combined the teachings of the modified Chess and Chambers system with those of Golan and monitor access to dynamically linked functions because requesting access to dynamically linked functions could be an attempt to breach security.

As per claim 9, the applicant discloses the method of claim 8, which is met by the modified Chess and Chambers system in view of Golan (see above), with the following limitation which is met by Golan:

Wherein the artificial memory region spans a jump table containing pointers to the dynamically linked functions (Col 7, lines 31-35).

Chess in view of Golan describes all the limitations of claim 8. Golan describes the additional limitation of a jump table containing pointers to the dynamically linked functions. The jump table is often incorporated with dynamically linked

Art Unit: 2137

functions to store the actual addresses of the dynamically linked functions. It would have been obvious to one of ordinary skill in the art at the time in the invention was filed to have included a jump table with the method so that there could be a way of storing the actual addresses of the dynamically linked functions.

As per claim 20, the applicant discloses the method of claim 14, which is met by the modified Chess and Chambers system (see above), with the following limitation which is met by Golan:

Wherein the artificial memory region created by the memory manager component spans a jump table containing pointers to dynamically linked functions, and the monitor component monitors access by the emulated computer executable code to the dynamically linked functions.

The claim is met by the combination of claims 8 and 9. Explanations for claim 8 and 9 rejections are listed above.

### ***Response to Arguments***

8. Applicant's arguments with respect to the art applied to claims 1, 4, 8-16, and 20-23 have been considered but are moot in view of the new ground(s) of rejection.



Art Unit: 2137

9. Applicant's arguments filed 07/12/2007 have been fully considered but they are not persuasive. Applicant argues the rejection of claims 12-16 and 20 as being non-statutory under 35 USC 101 is improper.

With respect to Applicant's argument claims 12 and 13 are related to a data signal embodied in a transmission medium. Applicant's specification states that this medium can be such things as the Internet, an intranet, or any other wired or wireless transmission medium. Therefore, these claims merely relate to the signals traveling over a network. These signals are clearly not tangible and are therefore non-statutory. Furthermore a signal claim fails to fall within one of the statutory classes. Applicant attempts to overcome this fact by citing a passage from the November 22, 2005 Official Gazette Notice. However, the paragraph following the one cited by applicant states, "These interim guidelines propose that such signal claims are ineligible for patent protection because they do not fall within any of the four statutory classes of Sec. 101." Therefore, claims 12 and 13 are non-statutory. It is recommended that instructions be embodied on the computer readable media (e.g. memory) described on page 8 in lines 21-23 of the specification.

Art Unit: 2137

Applicant further argues that claims 14-16 and 20 are statutory because the fact that the claimed elements may be software does not render the claimed subject matter non-statutory. However, referring to page 8 lines 21-28 of the specification the apparatus is merely software because there is no hardware tied to the emulator or components of these claims and therefore fails to fall with any of the statutory classes. It is recommended that the apparatus claims include some sort of physical hardware described with respect to the device/system shown in figure 1 in order for the claims to constitute a machine.

### **Conclusion**

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened

Art Unit: 2137

statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chen teaches monitoring dynamically linked functions to determine viral activity.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Pyzocha whose telephone number is (571) 272-3875. The examiner can normally be reached on 7:00am - 4:30pm first Fridays of the bi-week off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on (571) 272-3865. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2137

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MJP

  
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